

CLAIMS

1. A process for treating waste water which contains soluble phosphorous, the process including the step of reacting the soluble phosphorous with a source of magnesium ions under reaction conditions to produce a phosphorous containing precipitate.
2. A process as claimed in claim 1 wherein the step of reacting the soluble phosphorous with a source of magnesium ions occurs in the presence of ammonium ions and dissolved oxygen.
3. A process as claimed in claim 2 wherein ammonia provides a source of ammonium ions.
4. A process as claimed in claim 3 wherein the waste water contains greater than 20ppm ammonia.
5. A process as claimed in any one of the preceding claims wherein the source of magnesium ions is magnesium oxide.
6. A process as claimed in claim 5 wherein the source of magnesium ions is magnesium oxide granules.
7. A process as claimed in claim 6 wherein the magnesium oxide granules have a granular size in the order of 5 to 20mm.
8. A process as claimed in claim 6 or claim 7 wherein the process is conducted in a reaction vessel containing a bed of magnesium oxide granules.
9. A process as claimed in claim 5 wherein the source of magnesium ions is magnesium oxide powder.
10. A process as claimed in any one of claims 2-9 wherein an oxygen containing gas is introduced into the waste water to provide a source of dissolved oxygen.
11. A process as claimed in claim 10 wherein the oxygen containing gas is air.

12. A process as claimed in any one of the preceding claims wherein the phosphorous containing precipitate is a magnesium ammonium phosphate precipitate.

5 13. A process as claimed in any one of the preceding claims wherein the precipitate is struvite.

14. A process for treating waste water which contains soluble phosphorous, the process including the step of reacting the soluble phosphorous under reaction conditions to form a magnesium ammonium phosphate precipitate.

10 15. A treatment plant arranged to treat waste water containing soluble phosphorous from a residential property, the plant including means for reacting the soluble phosphorous with a source of magnesium ions under reaction conditions to produce a phosphorous containing precipitate.

15 16. A process substantially as hereinbefore described with reference to the accompanying drawings and/or example.